



KAMPALA PRIMARY SCHOOLS HEADTEACHERS'  
EXAMINATIONS COMMITTEE (KAPSHA)  
PRIMARY SIX END OF TERM I EXAMINATIONS 2024  
MATHEMATICS

TIME ALLOWED: 2 HOURS 30 MINUTES.

PUPIL'S NAME: MR STEWARD'S MARKING GUIDE *(A STEWART)*  
SCHOOL: KAMPALA *0758142338 / 0779943506*  
DIVISION: WITHIN KAMPALA

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.**

*Read the following instructions carefully.*

1. This paper is made up of two sections: **A** and **B**
2. Section **A** has **20** questions (**40** marks)  
Section **B** has **12** questions (**60** marks)
3. Answer **all** questions. **All** answers to both section **A** and **B** must be written in the spaces provided.
4. ALL answers **MUST** be written using a **Blue** or a **Black** - point pen of fountain pen.
5. Un-necessary changes of work may lead to loss of marks.
6. Any handwriting that cannot easily be read may lead to loss of marks.
7. Do **not** fill any thing in the boxes shown

**"For Examiner's use only".**

FOR EXAMINERS' USE ONLY		
QN. NO	MARKS	SIGN.
1 – 10		
11 – 20		
21 – 25		
26 – 30		
31 – 32		
<b>TOTAL</b>		

**SECTION A (40Marks)**

1. Add: 
$$\begin{array}{r} 6 \ 8 \\ + 3 \ 1 \\ \hline 9 \ 9 \end{array}$$

2. Solve:  $3x + 4 = 19$

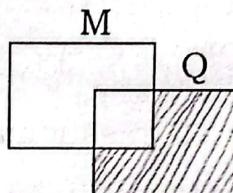
$$\begin{aligned} 3x + 4 - 4 &= 19 - 4 \\ \frac{3x}{3} &= \frac{15}{3} \\ x &= 5 \end{aligned}$$

$$x = 5$$

3. Work out:  $\frac{2}{3} + \frac{3}{5}$

$$\begin{aligned} \frac{2}{3} + \frac{3}{5} &= \frac{(2 \times 5) + (3 \times 3)}{(3 \times 5)} \\ &= \frac{10 + 9}{15} \\ &= \frac{19}{15} = 1\frac{4}{15} \end{aligned}$$

4. Shade Q - M in the set below.



5. Find the next number in the sequence:

$$29, 27, 24, 20, \underline{15}, \underline{9}$$

-2    -3    -4    -5    -6

6. Write 893,404 in words.

THOUSANDS	UNITS
H T O	H T O
8 9 3	4 0 4

Eight hundred ninety-three thousand, four hundred four

7. Happiness scored the following marks in mid-term test;

50, 40, 30, 60, 40.

Calculate her median mark.

$$\text{Median} = 30, 40, 40, 50, 60$$

$\overbrace{\hspace{1cm}}^1$

40

Median = 40 marks

8. Work out:  $-7 + +3$

$$\begin{aligned} -7 + (+3) \\ -7 + 3 \\ -4 \end{aligned}$$

$$-7 + +3 = -4$$

9. Namale left home at **7:30am** and arrived at school at **8:15am**, how long did she take on the way?

$$D.T = 7:30\text{am}^3$$

$$A.T = 8:15\text{am}$$

$$\text{Duration} = ?$$

from;

$$D = A.T - D.T$$

$$= 8:15$$

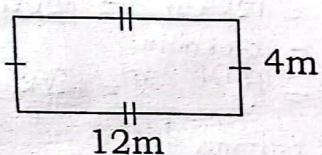
$$- 7:03$$

$$\hline$$

$$1:12$$

She took 1 hour 12 minutes on the way.

11. Find the area of the figure below.



$$\text{Area} = \text{length} \times \text{width}$$

$$= 12m \times 4m$$

$$= 48m^2$$

Area is  $48m^2$

13. Find the square root of **36**.

$$\begin{array}{r} \text{Square root of } 36 = \sqrt{36} \\ \quad | \\ \quad 2 \quad | \\ \quad 2 \quad 18 \\ \quad | \\ \quad 3 \quad 9 \\ \quad | \\ \quad 3 \quad 3 \\ \quad | \\ \quad 1 \end{array}$$

$$= 2 \times 3$$

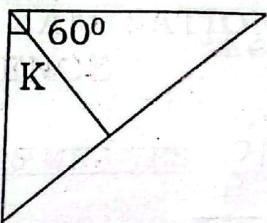
$$= 6$$

$$\sqrt{36}$$

$$\sqrt{36}$$

$$= 6$$

10. Find the value of **K** in the figure below.



$$K + 60^\circ = 90^\circ$$

$$K + 60^\circ - 60^\circ = 90^\circ - 60^\circ$$

$$K = 30^\circ$$

$$K = 30^\circ$$

12. Change **24.5km** to **m**.

$$1\text{km} = 1000\text{m}$$

$$24.5\text{km} = (1000 \times 24.5)\text{m}$$

$$= \left( \frac{1000}{1000} \times \frac{24.5}{1} \right) \text{m}$$

$$= (100 \times 24.5)\text{m}$$

$$= 24500\text{m}$$

$$24.5\text{km} = 24,500\text{m}$$

14. Jalia, Edward and Jane share sweets as follows; **12**, **10** and **8** respectively. Calculate the average number of sweets each one could get.

$$\text{Average} = \frac{\text{S.O.I}}{\text{N.O.I}}$$

$$= \frac{12+10+8}{3}$$

$$= \frac{30}{3}$$

$$\text{Average} = 10 \text{ sweets.}$$

15. Write **CMXCIX** in Hindu Arabic numerals.

$$\text{CMXCIX} = \underline{\underline{999}}$$

$$\begin{array}{r} \text{CM} = 900 \\ \times \text{C} = 90 \\ \hline \text{IX} = + 9 \\ \hline 999 \end{array}$$

$$\text{CMXCIX} = 999$$

17. Work out the **LCM** of **18** and **12**.

$$F_{12} = \{1, 2, 3, 4, 6, 12\}$$

$$F_{18} = \{1, 2, 3, 6, 9, 18\}$$

$$\begin{array}{l} \cancel{\text{GCF}} = \\ \text{C.F} = \{1\} \end{array}$$

$$\begin{aligned} \text{LCM} &= (2 \times 2) \times (3 \times 3) \\ &= 4 \times 9 \\ &= 36 \end{aligned}$$

LCM of 18 and 12 is 36

2	12	18
2	6	9
3	3	9
3	1	3
	1	1

18. A car moved at a speed of **60km/hr** and covered a distance of **120km**. Find the time taken to cover that distance.

$$\begin{aligned} \text{Distance} &= 120 \text{ km} & = \frac{120 \text{ km}}{1 \text{ hr}} \div \frac{60 \text{ km}}{1 \text{ hr}} \\ \text{speed} &= 60 \text{ km/hr} & = \frac{2}{1} \text{ km} \times \frac{1 \text{ hr}}{60 \text{ km}} \\ \text{Time} &= ? & = 2 \times 1 \text{ hr} \\ \text{Time} &= \frac{\text{Distance}}{\text{Speed}} & = 2 \text{ hours} \\ &= \frac{120 \text{ km}}{60 \text{ km/hr}} \end{aligned}$$

19. Using a protractor, a ruler and a pencil only, Draw an angle of **70°**.

70°

20. If
- represents a total of
- 8 balls**
- , draw such picture to show
- 32 balls**
- .

8 balls are rep. by 1 picto

1 ball will be rep. by  $\frac{1}{8}$

32 balls are rep. by  $(\frac{1}{8} \times 32)$  pictos  
= 4 pictos



### **SECTION B (60Marks)**

21. In a class of **40**pupils, **15** pupils like Art (**A**), **30** pupils like Mathematics (**M**), **Y** pupils like both subjects while **8** pupils do not like any of the two subjects.

a. Use the above information and complete the Venn diagram below.

$$n(\mathcal{E}) = 40$$

$$n(A) = 15 \quad n(M) = 30$$

15 - 4      Y      30 - 4

\$

- b. How many pupils like both subjects?

$$\begin{aligned}
 15 - y + y + 30 - y + 8 &= 40 \\
 15 + 30 + 8 - y + y - y &= 40 \\
 53 - y &= 40 \\
 53 - 53 - y &= 40 - 53 \\
 -y &= -13 \\
 y &= 13
 \end{aligned}$$

13 pupils like both subjects. (2marks)

- c. If a pupil is picked at random from the class, what is the probability that he or she like Mathematics only?

$$\begin{array}{l}
 \text{Mathematics only: } \\
 = 30 - 4 \\
 = 30 - 13 \\
 = 17
 \end{array}
 \quad \text{Probability} = \frac{n(E \cdot C)}{T \cdot N \cdot C} = \frac{17}{40}$$

22. Change  $111_{\text{two}}$  to base **ten**.

T	T	O
1	1	

$(1 \times 1) = 1$   
 $(1 \times 2) = 2$   
 $(1 \times 2 \times 2) = 4$

Sum

$4 + 2 + 1$

$= 7$

$$111_{\text{two}} = 7_{\text{ten}}$$

(2marks)

$$\begin{array}{r} 101_{\text{two}} \\ + 11_{\text{two}} \\ \hline 1000_{\text{two}} \end{array}$$

Side work

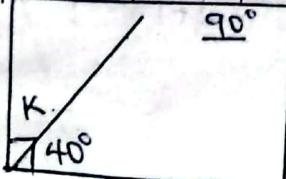
$$1+1=2$$
$$2 \div 2 = 1 \text{ r } 0$$

$$101_{\text{two}} + 11_{\text{two}} = 1000_{\text{two}}$$

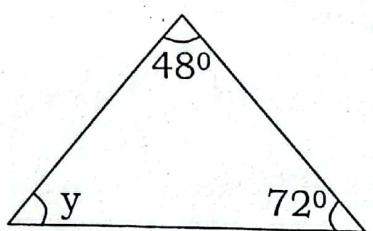
~~(2 marks)~~

23.	<p>In a school of <b>240</b> pupils, <math>\frac{2}{3}</math> of them are girls and the rest are boys.</p> <p>a. What fraction of the school are boys? (1mark)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; vertical-align: top;"> <u>Boys:</u>  <math display="block">\begin{aligned} &amp;= \frac{1}{3} \\ &amp;1 - \frac{2}{3} \\ &amp;= \frac{3}{3} - \frac{2}{3} = \frac{1}{3} \end{aligned}</math> </td><td style="padding: 5px; vertical-align: top;"> <u>The fraction of boys is <math>\frac{1}{3}</math></u> </td></tr> </table> <p>b. How many girls are in the school?</p> <p>Number of girls = <math>\frac{2}{3} \times \frac{80}{3}</math></p> $\begin{aligned} &= 2 \times 80 \\ &= 160 \end{aligned}$ <p>There are 160 girls.</p>	<u>Boys:</u> $\begin{aligned} &= \frac{1}{3} \\ &1 - \frac{2}{3} \\ &= \frac{3}{3} - \frac{2}{3} = \frac{1}{3} \end{aligned}$	<u>The fraction of boys is <math>\frac{1}{3}</math></u>	<p>b. Calculate the difference between the number of girls and boys in the class.</p> <p><u>Boys</u>  <math display="block">\begin{aligned} &amp;= \frac{1}{3} \times \frac{80}{3} \\ &amp;= 80 \text{ boys} \end{aligned}</math></p> <p>Difference = Girls - Boys  <math>= 160 - 80</math>  <math>= 80 \text{ girls.}</math></p>
<u>Boys:</u> $\begin{aligned} &= \frac{1}{3} \\ &1 - \frac{2}{3} \\ &= \frac{3}{3} - \frac{2}{3} = \frac{1}{3} \end{aligned}$	<u>The fraction of boys is <math>\frac{1}{3}</math></u>			

24.	<p><u>Study the shopping bill and fill in the missing items.</u> (1mark each)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Item</u></th><th style="text-align: left;"><u>Quantity</u></th><th style="text-align: left;"><u>Unit Cost</u></th><th style="text-align: left;"><u>Amount</u></th></tr> </thead> <tbody> <tr> <td>sugar</td><td>2kg</td><td>shs. 5,000</td><td>shs. <u>10,000</u></td></tr> <tr> <td>rice</td><td>3kg</td><td>shs. _____</td><td>shs. 9,000</td></tr> <tr> <td>bread</td><td>_____ loaves</td><td>shs. 4,000</td><td>shs. 8,000</td></tr> <tr> <td>salt</td><td>500gm</td><td>shs. 2,000</td><td>shs. <u>1,000</u></td></tr> <tr> <td></td><td></td><td>Total</td><td>shs. <u>28,000</u></td></tr> </tbody> </table> <p><u>Sugar</u>  1kg costs shs. 5,000  2kg will cost shs. <math>5,000 \times 2</math>  2kg cost = shs. <u>10,000</u></p> <p><u>Rice</u>  U.C = <u>Amount</u>  Quantity = <math>\frac{\text{Amount}}{\text{U.C}}</math>  = <math>\frac{\text{shs. } 9,000}{\text{shs. } 4,000}</math>  = <u>2.25 kg</u></p>	<u>Item</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>	sugar	2kg	shs. 5,000	shs. <u>10,000</u>	rice	3kg	shs. _____	shs. 9,000	bread	_____ loaves	shs. 4,000	shs. 8,000	salt	500gm	shs. 2,000	shs. <u>1,000</u>			Total	shs. <u>28,000</u>	<p><u>Bread</u>  Quantity = <math>\frac{\text{Amount}}{\text{Unit Cost}}</math>  = <math>\frac{\text{shs. } 8,000}{\text{shs. } 4,000}</math>  = <u>2 loaves.</u></p> <p><u>Salt</u>  Amount = U.C <math>\times</math> Q  = shs. <math>2,000 \times 500</math>  = shs. <u>1,000,000</u></p> <p><u>Total Expenditure</u>  shs. 10,000  shs. 9,000  shs. 8,000  + shs. 1,000  shs. <u>28,000</u></p>
<u>Item</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>																							
sugar	2kg	shs. 5,000	shs. <u>10,000</u>																							
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salt	500gm	shs. 2,000	shs. <u>1,000</u>																							
		Total	shs. <u>28,000</u>																							

25.	<p>a. Given that angle K and angle <math>40^\circ</math> are complementary. Find the value of k in degrees.</p> <p><u>complementary add up to <math>90^\circ</math></u></p> 	<p><math>K + 40^\circ = 90^\circ</math></p> <p><math>K + 40^\circ - 40^\circ = 90^\circ - 40^\circ</math></p> <p><math>K = 50^\circ</math></p> <p><math>K = 50^\circ</math></p>
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- b. In the figure below find the value of  $y$  in degrees. (3marks)



$$\begin{aligned}
 y + 48^\circ + 72^\circ &= 180^\circ \\
 y + 120^\circ &= 180^\circ \\
 y + 120^\circ - 120^\circ &= 180^\circ - 120^\circ \\
 y &= 60^\circ \\
 y &= 60^\circ
 \end{aligned}$$

26. Given that  $a = 2$ ,  $b = 3$  and  $c = 4$ . Find the value of;

a.  $4b - c$

$$\begin{aligned}
 4b - c & \\
 = (4 \times b) - c & \\
 = (4 \times 3) - 4 & \\
 = 12 - 4 & \\
 = 8 &
 \end{aligned}$$

(2marks)

b.  $\frac{a+c}{b}$

$$\begin{aligned}
 \frac{a+c}{b} & \\
 = \frac{2+4}{3} & \\
 = \frac{6}{3} & \\
 = 2 &
 \end{aligned}$$

(2marks)

c.  $b^2$

$$\begin{aligned}
 b^2 &= b \times b \\
 &= 3 \times 3 \\
 &= 9 \\
 b^2 &= 9
 \end{aligned}$$

(1mark)

27. Workout the following:

a. Add: **Hrs**      **Mins**

3	55
+ 2	15
<hr/>	<hr/>
6	210

6 hrs 10 minutes

**Side Work**

$$\begin{aligned}
 55 + 15 &= 70 \\
 70 \div 60 &= 1 \text{ r } 10 \\
 1 + 3 + 2 &= 6
 \end{aligned}$$

(2marks)

b. Subtract: **Weeks**      **Days**

4	2
- 1	5
<hr/>	<hr/>
3	4

3 weeks 4 days

**Side Work**

$$\begin{aligned}
 7 + 2 &= 9 \\
 9 - 5 &= 4
 \end{aligned}$$

(2marks)

- c. Express **3hrs: 20 minutes** to minutes.

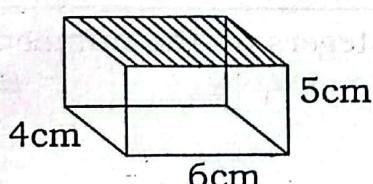
$$\begin{aligned}
 3 \text{ hrs to minutes} + 20 \text{ minutes} &= 180 \text{ minutes} + 20 \text{ minutes} \\
 1 \text{ hr} &= 60 \text{ minutes} \\
 3 \text{ hrs} &= (60 \times 3) \text{ minutes} \\
 &= 180 \text{ minutes}
 \end{aligned}$$

$$\begin{aligned}
 &= 180 \\
 &+ 20 \\
 &\hline
 &200 \text{ minutes}
 \end{aligned}$$

(1mark)

$$3 \text{ hrs : 20 min} = 200 \text{ minutes}$$

28. Study the figure below and answer the questions that follow.



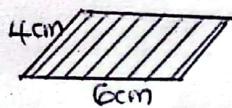
- a. How many edges has the figure?

12 edges

(1mark)

- b. Calculate the area of the shaded part of the figure.

Shaded part:



$$\begin{aligned} \text{Area} &= L \times W \\ &= 6\text{cm} \times 4\text{cm} \\ &= 24\text{cm}^2 \end{aligned}$$

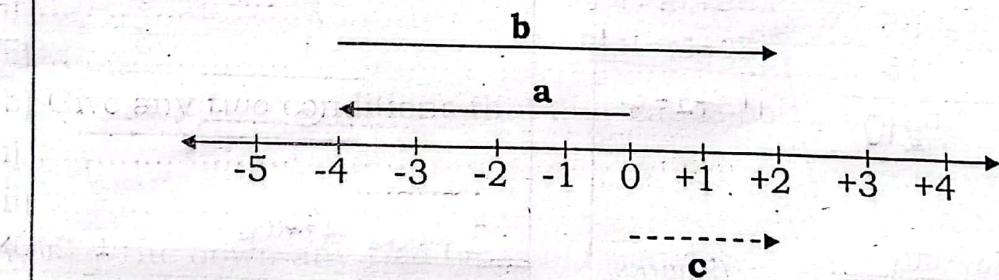
(2marks)

- c. Work out the volume of the cuboid above.

$$\begin{aligned} \text{Volume} &= L \times W \times H \\ &= 6\text{cm} \times 4\text{cm} \times 5\text{cm} \\ &= 24\text{cm}^2 \times 5\text{cm} \\ &= 120\text{cm}^3 \end{aligned}$$

(2marks)

29. Study the number line below and answer the questions that follow.



- a. Write the integers represented by;

i) a -4

(1mark each)

ii) b +6

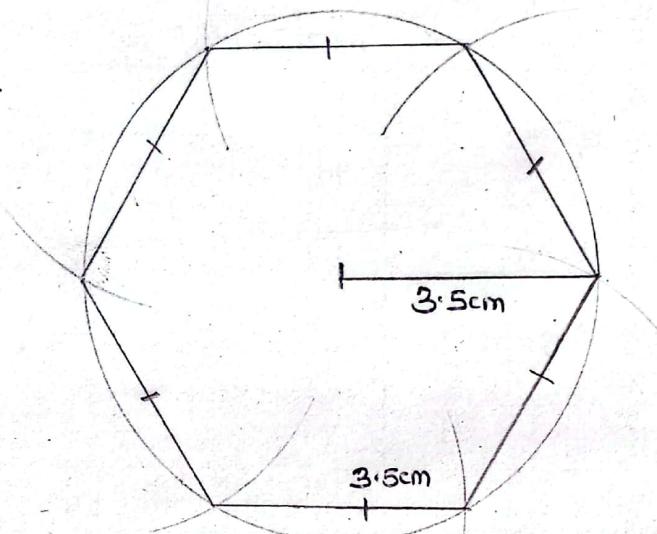
iii) c +2

- b. Write the mathematical statement for the integers on the number line above.

(1mark)

$$-4 + +6 = +2$$

30. a. Using a pair of compasses, ruler and a pencil only, construct a regular Hexagon in a circle of radius **3.5cm**.



(4marks)

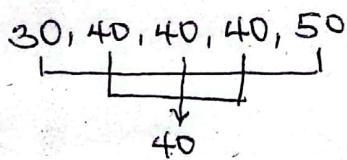
- b. Work out the perimeter of the Hexagon constructed above. (1mark)

$$\begin{aligned}
 \text{Perimeter} &= 6 \text{ sides} \\
 &= 6 \times \text{sides} \\
 &= 6 \times 3.5 \text{cm} \\
 &= 21.0 \text{cm}
 \end{aligned}$$

31. The following marks were obtained by pupils in a mathematics quiz 2024.

**40, 30, 50, 40, 40**

- a. Find the median mark.



Median = 40

(2marks)

- b. Find the modal mark obtained by the pupils.

Modal mark = 40

(2marks)

- c. Work out the range.

$$\begin{aligned}
 \text{Range} &= H - L \\
 &= 50 - 30
 \end{aligned}$$

Range = 20

(1mark)

32. The table below shows the number of Covid-19 patients discharged from the hospital in a week. Study it and use it to answer questions that follow.

<i>Days</i>	<i>Number of patients</i>
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

- a. How many patients were discharged on Wednesday? (1mark)

12 patients

- b. On which day was the highest number of patients discharged? (1mark)

On Sunday

- c. How many more patients were discharged on Sunday than on Friday?

Patients discharged

on Sunday

$$= (5 \times 4)$$

= 20 patients

on Friday

$$(5 + 3)$$

= 8 patients.

Difference

$$(20 - 8) \text{ patients}$$

$$= 12$$

= 12 patients Were discharged on Sunday than Friday

- d. Find the total number of patients discharged in the whole week.

Monday

6

Tuesday

8

Wednesday

12

Thursday

0

Friday

8

Saturday

1

Sunday

20

Sum

$$= 12 + 4 + 8 + 20 + 1$$

$$= 55 \text{ patients}$$

There were 55 patients

(2marks)

**\*\*\*GOOD LUCK \*\*\***

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